

ADDITIONAL SPECIES OF THE GENUS *BACCHA*
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This paper describes several additional species of *Baccha*. The material is part of a large assemblage of Syrphid flies, mostly from Brazil and Ecuador, belonging to Dr. C. L. Fluke, and I am indebted to him for the privilege of study. The types are in his collection.

***Baccha princeps* n. sp.**

Related to *prunella* Hull, the scutellum is distinctly yellow laterally; alula greatly reduced, mesonotum violaceous and anterior collar present; post calli and notopleura with a yellowish spot.

Male: Length 9.5 mm. *Head*: Vertex feebly shining black, with a single row of short black hair. The upper occipital pile is brownish-yellow, the lower pile longer golden and almost confined to a single row. There are a few black hairs anterior to the golden ones. The front is dully shining bluish-black, the lower portion of the front deeply creased before the antennal callus which is shining black upon a deeply arcuate upper margin, but yellowish above each antennae and black in the middle. Antennae short, yellow, sharply black upon the apical third and narrowly at the top of the third joint. All of the antennal pile is black and the arista blackish. Pile of front entirely black. Face and the cheeks and the lateral portion of the lower part of the front on either side of the callus light yellow; the sides of the face are whitish pubescent, the facial pile black. The face narrows considerably below from the front and has a strong tubercle. *Thorax*: Dully shining, brownish-black with a slight greenish to brassy cast and three narrow, faint, obscure blackish vittae. Pile of thorax sparse, erect and black. There is a long, well-developed, golden, anterior collar of pile between the dark humeri and extending on the humeri. There is a light yellow spot with golden pile posteriorly on the notopleura and the posterior half of the mesopleura is yellow. All pleural pile golden. Scutellum brassy, brownish-black upon a rather distinct, equilateral triangle, the sides rather widely and the apex narrowly brownish-yellow. Scutellar pile black, with about six to eight long, ventral, golden fringe hairs. *Abdomen*: Elongate, with nearly

parallel sides, dark shining sepia-brown except that the lateral margins of the second segment on the anterior half and laterally on the first segment and similar lateral margins on the third segment and fourth segment are light yellow, diffusely merging with the dark brown. The pile of the abdomen is appressed and blackish and there are no well-defined opaque areas, although a considerable portion of the middles of the segments might be described as subopaque. *Legs*: Anterior and middle femora and their tibiae and the basal three joints of their tarsi light yellow, the apical third of the femora tinged with brown, the pile blackish except upon the basal portion of the very arcuate front femora and apical half of their tibiae. Distal joints of tarsi brownish. Hind femora dark brown on apical third, lighter in the middle and almost yellowish at base, the pile black. Hind tibiae quite straight, slender, and dark brown with thick short black pile. First and second joints and their pile light yellowish or reddish-brown; apical joints darker. *Wings*: Wholly and uniformly tinged with brown. Alulae quite narrow, almost absent.

Female: Similar to the male in most respects, the third joint of the antenna more extensively blackish, the middle of the front broadly black, the post calli yellow, the thorax has the same yellow spot on notopleura and the same distinct pattern on scutellum. The anterior collar of pile is also present and the abdomen is similar. The lateral pile of the first segment is long and like the male chiefly golden with a few black hairs posteriorly. *Wings*: Similar, but darker, the male perhaps being slightly teneral. The alula, however, is better developed but long and with straight posterior border, about the same width throughout. It is not quite twice as wide as the basal part of the costal cell.

Holotype: male. Puyo, Oriente, Ecuador, 1000 meters, Dec. 3-15, 1938 (F. M. and H. Brown collectors). In the collection of Dr. C. L. Fluke. Allotype: female. Dos de Mayo, El Porvenir, Cam. del Pichis, Peru, July 6, 1920. In Cornell University collection.

Baccha (Pipunculosyrphus) tiarella n. sp.

Related to *globiceps* Hull, this species is characterized by the connected fascia of the abdomen, the dark greenish-black mesonotum, the margins of which in front of the suture are widely yellow, the yellow scutellum and the presence of narrow alulae.

Female: Length 8.5 mm. *Head:* Vertex shining black with a single row of black hairs; the front is black, obscured by brassy-brown pubescence throughout the middle and golden pubescence on the sides. The antennal callus is not prominent, is yellowish, polished brown anteriorly, and connected in the middle to an anterior, medial, black dot. Pile of front black, upon the yellow face and cheeks whitish. Sides of face white pubescent. The tubercle is well developed, the face not narrowed below. The antennae are orange and narrowly blackish above on the third joint; arista blackish. *Thorax:* Metallic black and slightly brassy with a wide, light yellow stripe from the suture laterally and including the whole of the humeri and its inner margin. The post calli are light brown, the scutellum and the whole of the pleura light brownish-yellow with pale yellow pile. The scutellar pile, however, is long, very sparse, and black in color; also with five or six pale ventral hairs. Mesonotum brownish. *Abdomen:* Flattened with nearly parallel sides, barely narrower basally; it is light yellowish-brown for the most part, marked with opaque, brownish-black fascia and yellow, broadly V-shaped fascia as follows: upon the middle of the second segment a rather narrow, arcuate, yellow fascia not reaching the sides, it is bordered anteriorly by a somewhat more narrow opaque brown band, leaving the anterior portion of the segment pale translucent yellow; the sides of the first segment are similarly yellow, its anterior border brown. There is a wider, opaque brown fascia upon the second segment behind the yellow fascia, whose lateral ends are narrower; none of these fascia reach the side margins. Apical portion of the segment shining reddish-brown. Third segment similar except that there is only a narrow, yellow, basal area in front of the first opaque fascia. Fourth segment similar to the third, the posterior margin of the posterior black fascia indented medially. Fifth segment with central, opaque black vittae reaching only as far as the wide, posterior, shining blackish margin. The remainder of the anterior two-thirds of the segment is yellowish-brown except for the lateral margin and except for a short, oblique extension of this brown into the yellow subbasally from the sides. *Legs:* First four legs entirely light brownish-yellow. Hind legs yellow on the basal third of the femora, orange on their basitarsi and brown on the remainder. The basitarsi appear darker above on account of the dark brown pile. *Wings:* Nearly

hyaline and elongate, the stigmal cell light brown, the alulae present but quite narrow and about as wide as the basal portion of the costal cell.

Holotype: female. Nova Teutonia, Brazil (Fritz Plaumann).

Baccha hirundella n. sp.

Related to *clarapex* Wiedemann, the anal cell is wholly brown, the ventral scutellar fringe is black, the scutellar discal pile is exceptionally sparse and black, and the proportions of the abdominal segments are different.

Female: Length 9 mm. *Head*: Vertex and front moderately shining black with a slight bluish cast and black pile; the sides of the front are narrowly and sharply light yellow and the yellow continues downward and slightly widens upon the sides of the bluish-black and white pubescent face. The pile upon the lower part of the face is whitish but black near the antennae, the cheeks black and white pubescent. The antennae are wholly brownish-black, the arista short, basally thick and blackish. The antennal callus is not protuberant and is rugose and black above with a large, central, black spot in front preceded by yellow above each antennae. The frontal pile is black; upper occipital pile black; occiput bluish-gray, pubescent and white pilose in at least two rows. *Thorax*: Dull black with obscure, narrow, brownish, faint vittae in the middle and greyish pubescence laterally. There is a very low, inconspicuous, anterior collar of pile evanescent however throughout the middle; it might better be described as absent. Lateral margins of the mesonotum metallic. There is a pale yellow stripe posteriorly on the mesopleura and upper sternopleura, whitish pubescent and whitish pilose. Scutellum dark, reddish, sepia-brown with quite sparse, short black pile. I cannot discern any ventral fringe hairs. *Abdomen*: Petiolate, widest at the end of the fourth segment and scarcely less wide at its base and at the end of the fifth segment. The end of the second segment is only a little wider than its base, the segment is about two and a half times as long as its narrowest width. Sixth segment dorso-ventrally flattened, the posterior middle portion ridged and creased on either side due to the lateral flattening of the ovipositor. General color of abdomen almost black and shining; actually it is more nearly reddish sepia-brown. It is very dark on the basal half of the second segment, the middle

of the third and apically on the fourth and the whole of fifth and sixth segments. There is a wide, opaque, black triangle on the third segment, a large triangular fascia on the fourth segment, which posteriorly has two clefts in it which are bluish-grey; the anterior corners of the segment are also bluish-grey. Fifth segment with medial, opaque, short, black vittae, and suggestions of similar vittae just laterally to the medial one and the area between lighter reddish-brown. Pile of the abdomen black except on sides of first segment. *Legs*: Dark brown, the apex and basal half of the first four tibiae diffusely yellowish-brown and pale yellow on the middle tibiae. The hind femora and their tibiae except the extreme apex of the former are black and black pilose. The basal two-thirds of the hind basitarsi are black and black pilose, the remaining joints almost white. *Wings*: Very strongly tinged with brown on all except the apical fourth which is hyaline. Whole of stigmal cell and costa and whole of anal cell brown. Alulae large, well developed, brown in color.

Holotype: female. Nova Teutonia, Brazil (Fritz Plaumann).

Baccha calypso n. sp.

Related to *crocata* Austen, the second abdominal segment is more flattened than cylindrical; the alula is quite narrow.

Female: Length 7.5 mm. *Head*: Eyes large, the face and front narrow. The vertex is opaque black, quite narrow, the ocelli resting on the eye margins; the vertex has a single row of black hairs, but the occiput is golden pilose behind and laterally and black in ground color. The narrow front is yellow, brownish-yellow in the middle with a slender, medial, dark brown line anteriorly knobbed on the upper half, and with just above the antennae a rather large, clear, round, black dot. The antennae are orange with a trace of brown above. The arista is blackish. Cheeks and face light yellow, with well-developed tubercle, the pile and that of front and antennae black. *Thorax*: Moderately shining, brownish-black upon the disc of the mesonotum with a pair of wide, laterally diffuse, submedial, yellowish pollinose vittae and between these vittae a more narrow, similar vittae. The area in front of the scutellum is widely yellowish pollinose. The sides of the mesonotum are broadly light yellow, the whole of the pleura are pale yellow except for a small brown spot above the posterior coxae and a posterior brown margin in front of the lateral base.

This brown stripe is interrupted by the spiracle. The scutellum is yellow, but in an oblique light appears pale or faintly brown upon the disc; its pile is very sparse, black, with a pair of longer black bristles at the apex and five or six short, black, ventral fringe hairs. *Abdomen*: Only a little petiolate; widest at the end of the third segment, but a little less wide at its base and at the end of the fourth segment. The base of the second segment is barely more narrow than the apex and the segment is approximately one and a half times as long as its apical width. The sides of the first segment are yellow. The remainder of the abdomen is chiefly brownish-yellow; although for the most part it is obscured by the preservation there is a pattern of dark brown vittae. The pile of the abdomen is entirely black and appressed, but long and bristly and rather sparse on the sides of the first segment. *Legs*: Entirely light yellow and faintly brownish-yellow upon the middle of the hind tibiae which is perhaps due to darker colored pile. *Wings*: Pale brown, a little darker, along the border of the costa upon the marginal and submarginal cells but not forming a distinct spot. Stigmal cell barely darker; the alulae narrow, and of approximately the same width as the basal portion of the costal cell, its posterior corner rectangular; the third longitudinal vein is straight and slightly turned backward apically carrying the costa with it.

Holotype: female. Orlando, Florida, Jan. 5, 1925.

Baccha io n. sp.

Elongate, spatulate species, characterized by the strongly, convexly arched third vein. Blackish-brown flies with yellow vittate and V-shaped spots. Related perhaps to *nora* Curran. Alula narrowly present.

Female: Length 10 mm. *Head*: Vertex brassy, brownish-black and narrow with a single row of blackish pile. The front is yellow with a rather broad, medial brown stripe reaching almost to the central, black dot above the antennae. Antennae orange; most of the third joint dark brown except its base. The arista is blackish, its short swollen base yellowish. The face and cheeks are yellow with pale pile above except opposite the antennae; pile of front black; tubercle of face quite low. The occiput is black and grey pubescent with golden pile. *Thorax*: The disc of the mesonotum is shining black, bright brassy along its sharp lateral border. The sides of the meso-

notum, however, are widely pale yellow, including the humeri, post calli and the whole of the scutellum; the disc of the scutellum, viewed obliquely, is dark brown, but light yellow when viewed from above, its pile very sparse, long and black with four or five dark ventral hairs. The mesonotal pile is very sparse and pale and has no anterior collar. Sublaterally the blackish area becomes somewhat violaceous. The pleura are light yellow, obscurely brown upon a wide, posterior, diagonal stripe in front of the posterior spiracle. Squamae dark brown.

Abdomen: Elongate and petiolate, brownish-yellow, marked with black which is partly shining and partly opaque as follows. The posterior border of the first segment except its corners, and all of the second segment, with some exceptions, shining dark brown. The posterior apex of the subcylindrical second segment is shining black; in front of this there are a pair of practically touching, velvet-brown, opaque triangles, the oblique, anterior margins of which are bordered with yellowish-brown. Upon the third segment the posterior border is widely shining blackish and in front there lies a transverse, opaque black fascia that is triangularly expanded in the middle so as to send forward a wide mediâl vittae to the base of the segment; the antero-lateral surfaces of the triangle are concave. The fourth segment is similar except that the mediâl vittae is slightly dilated basally and the lateral portions of the posterior opaque fascia extend anteriorly forward bluntly for a short distance. This leaves the anterior, lateral, yellow part of the segment in the form of a crude inverted V. The anterior corners of the segment are narrowly dark. The fifth segment has a pair of yellow, rather wide, but more widely separated brownish-yellow vittae that run two-thirds the length of the segment. Outside of these close to the base are short, small, diagonal extensions of yellow. The second segment is three or more times as long as its middle width; it is barely more narrow in the middle than at apex or base.

Legs: Light brownish-orange; viewed from the end the hind femora are widely brown subapically, but more yellowish in the middle and brown again on the base; similarly their tibiae are brownish with a yellow band in the middle; the very long hind metatarsi are longer than the remaining joints and all the hind tarsi orange-brown.

Wings: Light yellowish-brown. The alulae quite slender, narrower than the basal costal cell. Subapical crossvein sigmoid; third longitudinal vein considerably arched apically, carrying the costa back posteriorly. Stigmal cell barely darker.

Holotype: female. São Paulo, Brazil, C. de Jordão (F. Lane collector), Dec. 16, 1935. Paratype: female. Same data, Dec. 15, 1935.

Baccha cymbellina n. sp.

Characterized by the yellowish-brown triangle and V-shaped spots upon the dark brown abdomen. Related to *crocata* Austen but more slender.

Male: Length 8 mm. *Head*: Vertex blackish, with yellowish-grey pubescence in front of and just behind the ocelli and the posterior portion of the vertex brassy. There is a single row of black hairs. Front, face and cheeks light yellow and narrow, the middle of the front with a light shining brown area and a tiny brown dot above the antennae. Antennae orange, the quite slender arista black, its base not thickened. Pile of upper part of face and front black and sparse. *Thorax*: Mesonotum dully shining reddish to brassy black with a pair of widely separated, narrow, very obscure, yellowish-brown pollinose vittae anteriorly. The lateral margins of the mesonotum, the humeri, post calli and scutellum light yellow. The disc of the scutellum viewed obliquely is brownish; upon its disc there are three or four extra long black hairs and there are also three to four long, slender, apical, fine dark hairs; ventral fringe hairs appear to be absent. *Abdomen*: Quite slender, sub-cylindrical as far as the end of the third segment; dark reddish-brown marked with yellow, the sides of the first segment and its anterior margin light yellow. Upon the second segment just past the middle there are a pair of wide, oblique, yellow fascia which are narrowly and linearly separated at the point of approach in the midline. They are opaque black and margined behind in the middle and in the front. The apical portion of the second segment is widely shining brown. Third segment similar except that the yellow spots are now triangular, slightly indented near their posterior medial corners, a little more widely separated by opaque brown in the middle, are placed a little further forward upon the segment and anteriorly are less extensively bordered by opaque. Their length is a little over a third of the length of the segment, the fourth segment has similar lateral triangles still more widely separated in the middle and narrowly extended anteriorly to reach the base of the segment; also, posteriorly they are deeply and sharply cleft so as to give them the appearance of an inverted V. The

medial portion and the area between the clefts opaque black. Fifth segment with a pair of slender, submedial, yellowish vittae; the second segment of the abdomen is from three and a half to four times as long as its narrowest width. The pile of the abdomen is sparse, appressed and black, but longer, sparse and yellow and erect on the sides of the first segment. *Legs*: First four light yellow; hind pair yellow in middle apically and narrow at base and quite dark brown between. Their tibiae are widely dark brownish in the middle, yellowish at base and apex. *Wings*: light yellowish-brown, the third vein arched and pulled down apically due to the extension of the costa. Alulae quite slender, narrower than the basal part of the costal cell.

Female: Similar to the male, the second and third segments of the abdomen somewhat wider; this may however be due in this particular instance, in part to the extension of the tergum laterally from the sternites below it. The yellow V-shaped markings of the third and especially the fourth segment are much more deeply cleft, being almost divided on the fourth segment and there are similar deep cleft markings on each side on the fifth segment. The wings similar, but the alulae are at least as wide as the basal portion of the costal cell.

Holotype: male, and allotype: female. Santo Domingo, Ecuador, 950 meters, March 8, 1941 (D. B. Laddey).